

Scalars and Vectors

- A **scalar** is a physical quantity that has magnitude but no direction
 - Volume, speed
 - They are *italicized* in the book ($v=2$ m/s)
- A **vector** is a physical quantity that has both magnitude and direction.
 - Velocity, displacement
 - They are **bolded** in the book ($\mathbf{v}=2$ m/s N)

Resultant

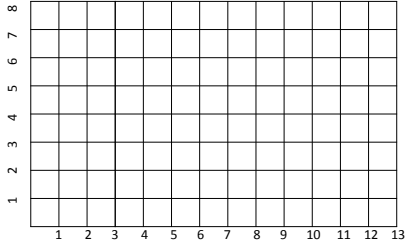
- The **resultant** is a vector that represents the combination of 2 or more vectors
- In a straight line, it is easy to find a resultant.
- You go 30 m north and then 10 m south
- $30\text{m} + (-10\text{ m}) = 20\text{ m North}$

Graphical Addition of Vectors

- Using a piece of graph paper you can make your vectors
- Then draw the resultant and then measure it and find the angle

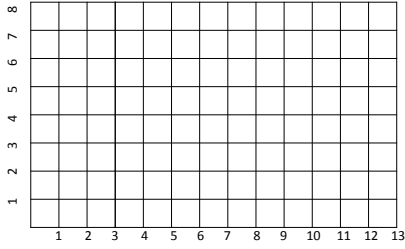


Example



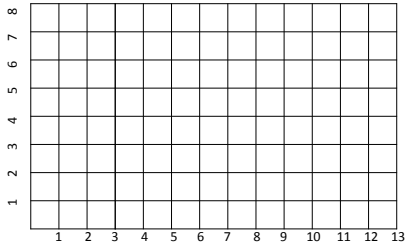
You walk 6 meters East and then 6 meters North

Example



You walk 10 meters East and then 7 meters North

Example



You walk 6 meters East , 4 meters North, and 2 meters East